BOQ

Comprehensive Development of Selected 04 Arterial, Subarterial and other major connecting roads in Yelhanka Zone and Dasarahalli Zone by providing white topping under ESCROW grants in Package-07

Sl.No	Specification	Unit	BOQ Quantity
1	Removing B.S/Concrete Slab of Drain and stacking (Data Rate).	m2	**4062.86**
2	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete,wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead By Mechanical means - Cement Concrete Grade M-15 & M-20 ((ii) A)	m3	**2647.19**
3	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead. By Mechanical means - Dismantling Brick / Tile work / rubble masonry / pitching / etc by mechanical means	m2	**3477.48**
4	Dismantling kerb stone by manual means and disposal of dismantled material with all lifts and lead	m	**35448.00**
5	Cutting road surfaces for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the classifications for: Cutting asphalt Road surface by Machine cutting to demarcate the trench width of the surface	m3	**201.96**
6	Earth work excavation by manual means for drains, canals, waste weir, draft, approach channels, key trenches, foundation of Buildings & bridges and such simillar works in all kinds of soils, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.. In all kinds of soils Depth upto 1.5m	m3	**46602.40**
7	Earth work excavation for Foundation by mechanical means for all works & depth upto 3 m, as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, including dressing of excavated surfaces, disposing off or levelling the excavated earth or sorting & stacking the selected earth for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools, usage of machinery & other appurtenaces required to complete the work In all kinds of soils Depth upto 3 m	m3	**18586.60**

8	Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC: 98 - 1997 and approved drawings. Case -II : Double row for two utility services	m	**1591.50**
9	Providing and Laying Reinforced Cement Concrete Pipe NP3 as per design in Single Row Providing and laying reinforced cement concrete pipe NP3 for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection works,backfilling, concrete and masonry works in head walls and parapets Clause 1101.6 1000mm dia	m	**18.00**
10	Providing, laying and jointing HDPE pipes of specified grade andconforming to IS 4984-2016 with latest ammendments and conveyingto work site including loading and unloading at both destinations androlling and lowering into trenches, laying true to line and jointing of pipes and specials with electrofusion welding, giving hydraulic test as per relevant ISS with all lead and lifts including encasing the pipealround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, stub ends, flanged sets, bedns, reducers etc. complete (Contractor will make his own arrangements for procuring water for testing) etc. complete. NOTE: Upto 110mm dia Coil shall be used. For :HDPE Grade PE 100 PN 6.0 .200mm dia	m	**22869.60**
11	Providing, laying and jointing HDPE pipes of specified grade andconforming to IS 4984-2016 with latest ammendments and conveyingto work site including loading and unloading at both destinations androlling and lowering into trenches, laying true to line and jointing of pipes and specials with electrofusion welding, giving hydraulic test as per relevant ISS with all lead and lifts including encasing the pipealround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, stub ends, flanged sets, bedns, reducers etc. complete (Contractor will make his own arrangements for procuring water for testing) etc. complete. NOTE: Upto 110mm dia Coil shall be used.For :HDPE Grade PE 100 PN 6.0 .110mm dia	m	**28440.80**
12	Providing Bedding or Backfilling using approved stone dust / quarry dust of size not exceeding 5.6 mm for the pipe line trenches including watering and consolidation etc., complete with all lead and lifts as per specification and as directed by the engineer incharge, after obtaining the approval of the Chief Engineer.	m3	**5634.33**
13	Construction of Median and Island with Soil Taken from Roadway Cutting Construction of Median and Island above road level with approved material deposited at site from roadway cutting and excavation for drain and foundation of other structures, spread, graded and compacted as per clause 408	m3	**6905.12**
14	Construction of Granular Sub-Base of required grading as per design spreading in uniform layers with motor grader on prepared surface mixing by mix in place method with front end loader at OMC and compacting with vibratory roller to achieve the desired density, complete as per clause 401 -Grading V	m3	**8281.00**

15	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver/grader in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	m3	**3332.37**
16	Providing and laying in position cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications Mix 1:3:6 (M10) Using 20 mm nominal size graded crushed coarse aggregates	m3	**1625.84**
17	Providing and laying in Cement Concrete for all Basement & surface level works, return walls, retaining walls, sunken floors etc. The granite/trap/ basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necessary, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately).M25 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	m3	**1998.53**
18	Providing and laying in position cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications Mix 1:2:4 (M15) Using 20 mm nominal size graded crushed coarse aggregates	m3	**733.15**
19	Providing and fixing Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works including cost of materials, labour, usage charges of machinery complete as per specifications and as per directions of the Engineer-in- Charge.	Kgs	**60107.52**
20	Providing and fixing Precast RCC 200mm thick cover slab for Drains/culverts/chambers & others using M30 design mix Grade Concrete using 20mm nominal size graded crushed coarse aggregates, slab reinforcement steel with Bottom of 12mm @ 120mm c/c and top of 10mm @ 120mmc/c and distribution steel of 8mm @180mm c/c reinforcement steel (@ rate of 115 Kg/Cum) and slab jointed in CM 1:3 including cost of material, labour, form work, lifting using suitable crane, lift charges, usage of machinery, scaffolding, curing lead and transportation charges etc.... complete and as per the directions of Engineer in-Charge.	m2	**307.00**
21	Providing and laying 100mm thick pre-cast cover slabs over drains & Rain pit of width not exceeding 800 mm using M20 concrete reinforced with Micro Alloyed High carbon steel with 3mm - 3ply wired steel @ 2.00 kg/m2, slabs jointed in CM 1:3 proportion and nicely finished Including providing holes in the Cover slabs wherever necessary for easy drainage of surface water including of labour, materials, scaffolding, usage of machinery, curing, lead and lift charges etc, Complete.	m2	**16469.12**

22	Supplying & fixing Composite Fibre Reinforced Polymer (FRP) utility cover conforming to IS 12592:2002 with sufficient load bearing capacity as per technical specifications. Heavy Duty Square 560x560 mm with load bearing capacity upto 30t (PWD SR 2023-24 P-79, I-8.57d) Vol-III	No.s	**504.00**
23	Providing and laying 60mm thick factory made precast M -30 grade Cement Concrete Paver Block as per IRC SP 63:2018 & IS 15658 for Cycle Tracks & Pedestrian Footpaths of approved shape and colour, laid in required pattern and including over 30mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-incharge. (WMM/WBM Base to be paid separately if necessary as per relevant technical specification).	m2	**49710.58**
24	Providing and laying 100mm thick factory made precast M -40 grade Cement Concrete Paver Block as per IRC SP 63:2018 & IS 15658 for Commercial Traffic Axle load repetitions more than 10MSA upto 20MSA for Industrial Streets, Bus & Truck parking of approved shape and colour, laid in required pattern and including over 40mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (WMM/WBM Base to be paid separately as per relevant technical specification).	m2	**21664.80**
25	Providing and laying in Cement Concrete for all Basement & surface level works, return walls, retaining walls, sunken floors etc. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necessary, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications.. (The cost of steel reinforcement & formwork to be paid separately) M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	m3	**1147.13**
26	Providing and laying in Cement Concrete for all Basement & surface level works, return walls, retaining walls, sunken floors etc. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necessary, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications.. (The cost of steel reinforcement & formwork to be paid separately) M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	m3	**36.74**
27	Steel Fabrication Supplying, fitting and placing TMT FE 550 / 550D Steel Reinforcement including cost of all materials, machinery, labour, cleaning, straightening, cutting, bending, hooking, laping/welding joints, tying with binding wire / softannealed steel wire and other ancilary operations complete as per drawing and technical specification (h). All other type of structure.	Tonne	**473.61**
28	Providing and laying in Cement Concrete for all Basement & surface level works, return walls, retaining walls, sunken floors etc. The granite/trap/ basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necessary, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) M30 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	m3	**242.60**

29	Providing and laying in Cement Concrete for all Basement & surface level works, return walls, retaining walls, sunken floors etc. The granite/trap/ basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necessary, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately)-M30 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	m3	**60.75**
30	Providing and constructing load bearing wall with Solid Concrete blocks of size 400x200x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications.	m2	**191.36**
31	Providing 12 mm cement plaster with cement mortar 1:6 (1 cement:6 fine sand) including rounding off corners wherever required smooth rendering, providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications and as per directions of Engineer-in-charge.	m2	**287.04**
32	Painting on Steel Surfaces Providing and applying two coats of ready mix paint of approved brand on steel surface after thorough cleaning of surface to give an even shade	m2	**256.37**
33	Providing and fixing pre cast solid cement concrete kerb stones made out of M20 with top width 100mm and bottom width 150mm respectively, 300mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting, including formwork, curing, including cost of all materials, labour, hire charges of machinery, loading, unloading, lead and lift, transportation etc., complete., to be laid between Travel lane and Cycle Track/Landscape with all lead, lift, loading and unloading complete as per the direction of Engineer incharge (Form Finish Concrete and no painting to be done)	Nos.	**77351.00**
34	Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	m2	**10442.40**
35	Removal of telephone / Electric poles including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and lead and stacking the serviceable and unserviceable material separately	No.s	**76.00**
36	Dismantling of Flexible pavements and disposal of dismantled materials and stacking serviceable and unserviceable materials separately. A- Bituminous Course	m3	**350.00**
37	Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 504 using HMP 40/60 TPH Capacity compacting, trimming and finishing the surface to form a smooth continuous surface, all as per clause 3004.2	m2	**1312.50**
38	Providing and fixing in position 25mm dia dowel bars precoated with anticorrosive epoxy paint of required Dia. 600 mm. Long and at 300 mm. C/C and wherever directed including handling, straightening, necessary cutting supported by TMT, chairs with proper alignment by using properly designed assembly of Bulkheads lubricating half length with bituminous paint as directed etc. complete.	No.s	**277.78**

39	Providing and fixing in position, tie bars precoated with anticorrosive epoxy paint of 12 mm dia. 700 mm. long and at 300 mm. C/C and wherever directed including handling, straightening wrapping with paper of approved quality for half length, necessary cutting, handling, straightening , supported by assembly of TMT, chairs with proper alignment etc. complete.	No.s	**8666.67**
40	Providing crushed stone aggregate, depositing on a prepared surface by hauling vehicles, spreading and mixing with a motor grader, watering and compacting with a vibratory roller to clause 407 to form a layer of sub-base/Base By Mix in Place Method i) For 53 mm maximum size (Table 400-14)	m3	**4760.00**
41	Providing M-Sand : Supplying and filling in plinth,foundations / UG cable work with approved M-sand including watering, ramming, consolidating and dressing.The rate includes the cost of material, labour charges,required tools and plants etc., complete. Work shall be carried out as per the instructions of Engineer- in-charge of works as per the standard procedure.	m3	**166.39**
42	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications.iNCLUDING FORMWORK (The cost of steel reinforcement shall be paid separately) Mix Mix 1:2:4 Using 20 mm nominal size graded crushed coarse aggregates	m3	**3007.04**
43	Providing and laying in position Reinforced cement concrete for all Foundation works. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticizers laid in finished layers, well compacted using needle vibrators, including all lead & lifts, cost of all materials, quality confirming to the requirements of relevant IS codes , labour, Usage charges of machinery, curing and all the other appurtenances required to complete the work as per technical specifications including formwork. (The cost of steel reinforcement to be paid separately) M25 Design Mix Using 20 mm nominal size graded crushed coarse aggregates (for C C Drain & Chambers)	m3	**1722.87**
44	Providing and laying in position Cement Concrete for all Foundation works.The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticizers laid in finished layers, well compacted using needle vibrators, including all lead & lifts, cost of all materials, quality confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all the other appurtenances required to complete the work as per technical specifications. M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates (for Footpath slope/open spaces)	m3	**49.28**
45	Providing and laying 100mm thick pre-cast cover slabs over drains & Rain pit of width not exceeding 800 mm using M20 concrete reinforced with Micro Alloyed High carbon steel with 3mm - 3ply wired steel @ 2.00 kg/m2, slabs jointed in CM 1:3 proportion and nicely finished Including providing holes in the Cover slabs wherever necessary for easy drainage of surface water including of labour, materials, scaffolding, usage of machinery, curing, lead and lift charges etc, Complete.	m2	**4793.00**
46	Removing and Refixing Cover slab of drains and pointing in Cement Mortor	m2	**518.00**

47	Supplying & fixing Composite Fibre Reinforced Polymer (FRP) utility cover conforming to IS 12592:2002 with sufficient load bearing capacity as per technical specifications.Light Duty Square 600x600 mm with load bearing capacity upto 5t	No	**500.00**
48	Supply and fixing of fibre reinforced plastic (FRP) covers of size 1000mmx1000mm of dark grey color frame .. Etc., of 10T capacity as per approved drawing .	No	**84.00**
49	Providing, laying and jointing HDPE pipes of specified grade and conforming to IS 4984-2016 with latest ammendments and conveying to work site including loading and unloading at both destinations and rolling and lowering into trenches, laying true to line and jointing of pipes and specials with electrofusion welding, giving hydraulic test as per relevant ISS with all lead and lifts including encasing the pipe alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, stub ends, flanged sets, bedns, reducers etc. complete (Contractor will make his own arrangements for procuring water for testing) etc. complete. NOTE: Upto 110mm dia Coil shall be used. For :HDPE PE 80 PN 6.0 110MM dia	m	**10000.00**
50	Providing, laying and jointing HDPE pipes of specified grade and conforming to IS 4984-2016 with latest ammendments and conveying to work site including loading and unloading at both destinations and rolling and lowering into trenches, laying true to line and jointing of pipes and specials with electrofusion welding, giving hydraulic test as per relevant ISS with all lead and lifts including encasing the pipe alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, stub ends, flanged sets, bedns, reducers etc. complete (Contractor will make his own arrangements for procuring water for testing) etc. complete. NOTE: Upto 200mm dia Coil shall be used. For :HDPE PE 80 PN 6.0 200MM dia	m	**20000.00**
51	Providing and constructing load bearing wall with Solid Concrete blocks of size 400x150x200mm having block density more than 1800kg/m3 and minimum compressive strength of 4.00 N/mm2 conforming to IS 2185 (Part - I) - 2005 and constructed with CM 1:4 as per IS 2572:2005 including cost of all materials, labour, scaffolding and curing, usage charges of machinery etc complete as per specifications.	m2	**1395.76**
52	Providing Cement mortar 1:6 (1 cement : 6 fine sand) including cost of all materials, labour and usage charges of machinery complete as per the direction of engineer incharge of work.	m3	**4.51**
53	Providing and laying 80mm thick factory made precast M -30 grade Cement Concrete Paver Block as per IRC SP 63:2018 & IS 15658 for Commercial Traffic Axle load repetitions upto 10MSA & for Residential Streets of approved shape and colour, laid in required pattern and including over 40mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (WMM/WBM Base to be paid separately as per relevant technical specification)	m2	**1930.00**
54	Footpaths and Separators: Supplying and fixing M15 grade precast cement concrete Kerb stones for Roadway, Sidewalls and gutters fixed with CM 1:3 fixed and finsihed in line as per direction of ngineer in charge. (The cost of PCC shall be paid extra) 600 x 300 x 150 mm Kerb Stone	m	**7900.00**

55	Providing and applying Cold plastic paint two component rolled on surfacing material solvent free, high build two pack seamless,tough,skid resistant, material with property of attaining 2mm thickness in single coat application white(or as required colour)based on glass and colour retaining acrylic cross linking resin system for coloured road surfacing including surface cleaning and cost of all material etc. complete. (All inclusive on bitumen or concrete surface) work shall carried out as per IRC 35-2015 clause 2.2)	m2	**4345.00**
56	Providing and Laying in position Precast RCC Bollards including, foundation, leveling,Hysd steel,painting with two coats,transportation as per the directions of Engineer-in-Charge	No	**334.00**
57	Providing and laying in place 300mm x 300mm x 16mm cement tactile directional and warning tiles (for a person with visual impairment) of the approved brand and make and specified colour for outdoor floors such as footpath, courtyard, multimodals location etc. laid on 20mm thick base of cement mortar 1:4 (1 cement: 4 coarse sand) in all shapes and patterns including grouting the joints with white cement with matching pigments etc. complete as per as per standards.	m2	**6358.80**
58	Scarifying the existing bituminous road surface to a depth of 50 mm and disposal of scarified material by Mechanical Means using Hydraulic excavator with in all lifts and lead	m2	**2000**
59	Providing and applying primer coat with SS1 grade Bituminous Emulsion on prepared surface of granular Base including cleaning with mechanical Broom of road surface and spraying primer at the rate of 0.90 kg/m2 using mechanical means	m2	**313.97**
60	Tack coat on Bituminous surface Providing and applying tack coat with RS1 Bituminous Emulsion using emulsion pressure distributor at the rate of 0.20 kg/m2 on the prepared bituminous surface cleaned with mechanical broom	m2	**107575.20**
61	Providing and laying Bituminous Macadam with 40/60 tph capacity hot mix plant using crushed aggregates of specified grading premixed with bituminous binder VG-30 @ 3.3% by weight of mix, transported to site, laid over a previously prepared surface with mechanical paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction	m3	**1801.26**
62	Providing and laying Bituminous Macadam (Grading-II) with 40/60 TPH capacity hot mix plant using crushed aggregates of specified grading premixed with bituminous binder VG-30 @ 3.4% by weight of mix, transported to site, laid over a previously prepared surface with mechanical paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction	m3	**637.00**
63	Milling of existing Bituminous surface to a specified depth up to 40mm using Milling machine including disposal of removed material)	m2	**88594.00**

64	Thin White Topping Construction of Thin White Topping with M40 grade Pavement quality Concrete pavement over existing Bituminous surface without wide cracks and without materiall/subgrade related problems and criterias confirming to Morth Circular dated 03.10.2024 (Preparation to be done if nescessary either by Milling or levelling course with BM). The Concerete shall be prepared with approved grade cement, coarse and Fine aggreagte conforming to IS 383:2016, maximum size of coarse aggregate not exceeding 31.5mm, mixed in a batching and mixing 0.35 to achive minimum flexural strength or modulus of rupture of concrete being 4.5Mpa including fibre reinforcement @0.90kg/m3, tranported to site, laid with slip form paver finisher, spread, compacted and finished in a continuous operation with Texture curing Machine including provision of contraction joint at short spacings(lm X lm or as per design), joint filler, sealant primer, joint sealant as per IRC 57:2018, admixture, curing compound, steel channels, finishing to lines and grades as per drawings. (Cost of milling & BM if necessary shall be paid seperately)OPC @420 kg/m3.(PWD SR 2023-24, Vol-III, P-50, I-6.4.1	m3	**18783.45**
65	Construction of Thin white topping with M40 grade plain cement concrete pavement over existing surface with approved grade cement @ 420 kg/m3 and as per IRC SP 76:2015, coarse and fine aggregate conforming to IS 383:2016, maximum size of fine aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid manually, spread, compacted and finished in a continuous operation with Texture Curing Machine including provision of contraction joint, joint filler, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades as per drawing.	m3	**931.73**
66	Providing and laying Dense Graded Bituminous Macadam with 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-40, @ 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 505 complete in all respects.	m3	**1398.93**
67	Providing and laying Bituminous Concrete with not less than 40/60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder VG-30 @ 4.78% Bitumen and waste plastic 8% of Bitumen of mix and filler, transporting the hot mix to work site, laying with mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibrator	m3	**1111.62**
68	Installation of a steel portable barricade with horizontal rail 300 mm wide, 2.5 m in length fitted on a 'A' frame made with 45 x 45 x 5 mm angle iron section, 1.5 m in height, horizontal rail painted (2 coats) with yellow and white stripes, 150 mm in width at an angle of 45 degree, 'A' frame painted with 2 coats of yellow paint, complete as per IRC:SP:55:2014	Each	**2223.00**
69	Positioning of a smart flagman with a yellow vest and a yellow cap and a red flag 600 x 600 mm securely fastened to a staff 1 m in length for guiding the traffic	Each	**222.00**
70	Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 g/m2 area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35:2015.The finished surface to be level, uniform and free from streaks and holes	m2	**8119.50**

71	Supplying and Fixing of Molded Shank Raised Pavement Markers / Cat's Eye made of polycarbonate and ABS moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 102 +/- 2 mm and with minimum reflective area of 13 cm2 on each side and the slope to the base shall be 35 +/- 5 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 +/- 2 mm and height not less than 30+/- 2 mm) from the body is to be a minimum value of 500 Kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.The contractor shall submit a two year warranty for satisfactory field performance including stipulated retro-reflectance of the reflecting panel, to the Engineer	Nos	**9362.00**
72	Retro-Reflectorised Traffic Signs Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC:67:2022 madeof Class C Type XI retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 801.3, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cmx 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022.60cm Equilateral triangle	No.	**16.00**
73	Retro-Reflectorised Traffic Signs Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC:67:2022 madeof Class C Type XI retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 801.3, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cmx 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022.60cm circular triangle	No.	**16.00**
74	Retro-Reflectorised Traffic Signs Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC:67:2022 madeof Class C Type XI retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 801.3, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cmx 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022.80cm x 60cm Rectangular (PWD SR 2023-24, Pg No 65, Item No. 8.6 A (x), Vol-III)	No.	**11.00**

75	Retro-Reflectorised Traffic Signs Retro-Reflectorised Traffic Signs Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC:67:2022 madeof Class C Type XI retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 801.3, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cmx 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022.60cm x 60cm Square	No.	**14.00**
76	Road Delineators -Supplying and installation of delineators (road way indicators, hazard markers, object markers), 80-100 cm high above ground level, painted black and white in 15 cm wide strips, fitted with 80 x100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed into the ground and conforming to IRC-79 and the drawings	No.	**3.00**
77	Providing and fixing of retro- reflectorised cautionary,mandatory and informatory sign as per IRC:67:2022 made of Class B Type IV retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 803.1, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x 3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022. 90 cm equilateral triangle	Each	**3.00**
78	Providing and fixing of retro- reflectorised cautionary,mandatory and informatory sign as per IRC:67:2022 made of Class B Type IV retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 803.1, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x 3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022. 60 cm Circular	Each	**3.00**
79	Providing and fixing of retro- reflectorised cautionary,mandatory and informatory sign as per IRC:67:2022 made of Class B Type IV retro reflective sheeting fixed over 2 mm thick aluminium sheeting vide clause 803.1, 3mm/4mm thick Aluminium composite material sheet depending on the size of the sign fixed over the back support frame of min 25 x 25 x 3mm angle mounted on a mild steel circular pipe 65 NB, 3.2 mm thickness firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing.The sign shall be maintained as per section 12 of IRC:67:2022. 90 cm Octagon	Each	**3.00**
80	Providing and erecting direction and place identification retroreflectorised sign as per IRC:67:2022 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 2 mm thick or Aluminium composite material sheet with overall thickness of 4mm with area exceeding 0.9 m2 fixed over back support frame of min 40 x 40 x 5mm angle mounted on a mild steel circular pipe 65 NB, firmly fixed to the ground by means of properly designed foundation with M25 grade cement concrete 45 x 45 x 60 cm, 60 cm below ground level as per approved drawing	Sqm	**13.50**

81	Removal of Unserviceable Soil with Disposal upto a suitable distance as directed by the Engineer incharge of work.	m3	**50612.16**
82	Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 10 m3)	m3	**8019.91**
83	Cost of Haulage Excluding Loading and Unloading Taking output 18 t load and lead 10 km = 180 t.km	m3	**60227.22**
84	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, aximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB.Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with 120 W System Power consumption. LED Efficiency>1301m/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008. Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned LED Streetlight 120 W	Each	**700.00**
85	Fabricating, supplying and erection of 8 mts long hot dip Galvanized Conical hot dip Pole with BSEN 10025 grade S355JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/s for 8 m Pole in single section and single joint welded as per IS 9595/IS10178AWS having dimensions bottom 155 mm , top 75 mm with 3 mm thick, suitable base plate and 4Nos of 550mm long J bolts along with template and the Pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc.,(excluding foundation) as per drawing appended. 8 m - Top 75 mm and Bottom 155 mm dia (PWD Vol-6,Electrical SR 2023-24, Utilization, PWD-Part-1 Electrical Item, Page No.- 12, Item No. 4.4.6)	Each	**700.00**
86	Fixing halogen/metal halide /SVL/IL/LED floodlight fitting over existing pole / wall ceiling including clA, bolts, nuts and wiring using suitable capacity wires.(PWD Vol-6,Electrical SR 2023-24, Utilization, PWD-Part-1 Electrical Item, Page No.- 56, Item No. 13.5)	Each	**504.00**
87	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia1.5m long M.S.Bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 ms. M. S. tubular pole, with necessary two coats of painting, with all other accessories.. - Double bracket 2x1.5 m. Length	Each	**700.00**
88	1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part- 1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 25 Sqmm, 3.5 Core, (12 GI Strips - 4 x 0.8 mm)	KM	**18.53**

89	Laying of cable in Existing Trench/GI pipe/Stone Ware/RCC Hume pipe using Wooden/Aluminum Rollers as directed by the departmental staff - LT Cable - 2.5 to 25 Sqmm	KM	**17.73**
90	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS 8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100V as per IS- 694:2010 - a) 4 core X 4 sqmm	m	**832.00**
91	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS 8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100V as per IS- 694:2010 - a) 4 core X 6 sqmm	m	**832.00**
92	Supplying and fixing of heavy duty cable glands suitable for UG cable of 1.1 KV class (metal only) 25mm dia	Each	**12.00**
93	Earth work excavation for cable trench of 0.5 to 0.75 Mtr. Width and Depth upto 1 Mtr including trial pits, depositing on bank upto a lead of 50 Mtr, Supplying and Displaying necessary Danger Boards and Lighting, Using sight Rails and Sign Boards at every 100 Mtr wherever necessary as directed. In Ordinary Soil	m3	**200.00**
94	Supplying, laying and jointing HDPE pipes of specified grade and conforming to IS 4984-2016 with latest ammendments and conveying to work site including loading and unloading at both destinations and rolling and lowering into trenches, laying true to line and jointing of pipes and specials with electrofusion welding, giving hydraulic test as per relevant ISS with all lead and lifts including encasing the pipe alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, stub ends, flanged sets, bedns, reducers etc. complete (Contractor will make his own arrangements for procuring water for testing) etc. - HDPE Grade PE80-PN6.0, 63mm dia	m	**17200.00**
95	Straight Through Jointing Kit Suitable for 1.1 kV Class LTUG Cable as per IS-13573 - Epoxy Type - 25 Sqmm, 4 Core	Set	**140.00**
96	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS:8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100Volts as per IS-694:1990 3C X 4Sq.mm	Mtr	**6904.00**
97	Digging of Pit for providing GI Pipe type Earthing - Ordinary Soil	Per pit	**47.00**
98	Grounding Material - Pipe Grounding GI Grounding pipe, B - Class, 42 mm dia, 2.5 Mtr long, 3.2 mm thick with bolt, nut, GI Strips and washer complete. Minimum Weight of GI Pipe: 7.3 Kg	No	**47.00**
99	Good Quality well burnt Charcoal for groundingpurposes packed in non returnable gunny bag of 30 Kg each	No	**47.00**
100	Good Quality Salt for grounding purposes packed in 50 Kg gunny bag	Bag	**71.00**
101	Supplying and fixing Microprocessor based Electronic timer (without contactor, Din Mounting using necessary bolts, nuts and washers etc.,.) 3-120sec setting.	Each	**14.00**
102	Supplying of on load change over switches 4 poles, AC 23Amps duty 415V, 50HZ, AC Supply. (Open Execution) Upto 63Amps	Each	**14.00**
103	Supply and fixing of 4Pole Power Contactor With No/NC Contacts on existing wood/panel board using necessary bolts, nuts, washers and wiring etc., complete with AC-3 Rating and as per IS-13947. 40AMPS	Each	**14.00**

104	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics) THREE POLE 100Amps 25KA.	Each	**14.00**
105	Supplying and Fixing of shunt trip suitable for MCCB/CBCT.	Each	**14.00**
106	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' curve , indicator ON/OFF, energy cross-3 with Short circuit breaking cappacity of 10K and complete wiring as required. Confirming to IEC 60898. 6-32 AMPS TPN.	Each	**38.00**
107	upplying, fixing and wiring rotary selector switch suitable for Ammeter.	Each	**14.00**
108	Supplying, fixing and wiring rotary selector switch suitable for Voltmeter.	Each	**14.00**
109	Supplying, fixing and wiring 3 phase Digital Ammeter/ Voltmeter	Each	**38.00**
110	Supplying, fixing and wiring Electronic Trivector Meter (ETV) 5 to 32/63 Amps three phase 4 wire whole current class-1 Accuracy Energy Meter.	Each	**14.00**
111	Supplying and fixing of LED type panel board indicating lamp with required colour suitable for 230/440v A.C. 50 Hz 12/24v D.C.	Each	**38.00**
112	Supplying 100Amps rated 3phase with neutral bus bar using required capacity electrolytic alluminium strips covered with heat shrinkable coloured PVC sleeve, mounted on phenolic/FRP/DMC insulator which are mounted on powder coated 40x6mm M.S.flat frame work in existing panel board. The bus bar shall have suitable holes for termination of incoming and outgoing cables as per IS specification with necessary botls,nuts and washers 100Amps 4x30x6mm Alluminium Strips	Mtr	**58.00**
113	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat 50X50X6MM with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint. - 50X50X6MM (PWD Vol-6,Electrical SR 2023-24, Utilization, PWD-Part-1 Electrical Item, Page No.- 20, Item No. 5.41.2)	Mtr	**50.00**
114	Fabricating supplying and mounting MS box made out 14 SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete. 14SWG.	Sqcm	**384040.00**
115	Developing the area of shurbs by digging to a depth of 0.45m, filling 50% with sand [0.0375 Cum], FYM [0.075 Cum], Red earth [0.21], [i.e. in the proportion of 1:2:3] aand planting with well established plants (8 plants per sq. mtr) exclusive of cost of plants and inclusive of ingredients	m2	**125.00**
116	Cost of the Plant (8 Plants per Sqm) including Transportation and Handling Charges	m2	**125.00**
117	Digging pits size 0.75m x 0.75m x 0.75 filling upto 50% the pits with top excavated soil and remainig 50% with sand Fym, Red earth (0.021 Cum) (i.e in the proportion of 1:2:3) and planting of Ficus Benjimina Prestige (90cm - 150 cm ht) Ficus Benjimina Starlight (90 cm - 150cm ht) Ficus Benjimina Black (90 cm - 150cm ht) / Ficus Nuda / mini luccii (90cm - 150 cm ht) / Ficus panda (90cm - 150 cm ht)Ficus triangularis Including Cost of plant, materials, transportationand handling & planting Cost)	m2	**125.00**
118	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	m3	**17.50**

119	Supplying, filling, spreading &leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineerin-charge.	m3	**17.50**
120	Supplying, filling, spreading &leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge.	m3	**12.50**
121	Gravel packing in tube well construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineerin- charge.	m3	**7.50**
122	Providing and fixing factory made precast RCC perforated drain covers, having concrete of strength not less than M-25, of size 1000 x 450x50 mm, reinforced with 8 mm dia four nos longitudinal & 9 nos cross sectional T.M.T. hoop bars, including providing 50 mm dia perforations @ 100 to 125 mm c/c, including providing edge binding with M.S. flats of size 50 mm x 1.6 mm complete, all as per direction of Engineer-in-charge.	each	**30.00**
123	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/plain ended casing pipes of required dia, conforming to IS: 4270,of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.100 mm nominal size dia having minimum wall thickness 5.00 mm	m	**17.50**